# Fingerprint [Secugen]

It has two major features that we need to remember

* Legacy Driver 🡪 Which is needed for the installation in windows
* Web API 🡪 Provides a small REST API (it can be seen in the taskbar)

When the fingerprint reader is turned on, it takes the image of the finger and takes three sample of it and keep it to an array. It can be then saved into the database. Secugen has a built-in web api which helps to take information from a certain port. Ex: Our software is running in localhost:80

and the secugen server runs in localhost:4400. Threrfore, we can communicate between two ports using socket connections.

When we want to match the fingerprint, the software will turn on the fingerprint reader and again it will take three arrays of data of the fingerprint and match the those reading with the values saved in the database. Then the secugen software has its own algorithm to say how much it matched. We can set the value of matching print. Ex: 40%. Same finger will never match to 100% due to different force applied by finger during the finger print scanning. At most, the fingerprint reader can match upto 85%. We can safely use 40% for matching.

# Server Deployment

## Getting to know about the ports

**Windows**

* Port Scan
* API foundation class 🡪 Build in Windows

**Linux**

* All devices are files 🡪 all of them stays in /dev
* Input devices 🡪 /dev/input/by\_id/…..
  + - * + or by keyboard
        + events (Keyboard strokes)
        + Simple File Read

## Getting to know about the service

**Old Services**

/etc/init

/etc/init.d

**New Service**

/etc/system

**Status Code Implementation**

start 🡪 etc/init

start abc, stop abc, default abc 🡪 /etc/init.d

/etc/system/abc.service 🡪 /etc/system

## Idea

**Expose ruling which member (Binding)**

x \_\_bind unix: socket/port

* No multicore optimization for python runserver
* Static files (css, html, js) are slow to read in the given server

**NGINX**

It surfs the static files, uwsgi runs in 8000

Collect static files are using to collect all the static files in Django in one place

NGINX looks for files in uwsgi

🡪 8000 port if it does not find anything deploys the files from /static

## Ubuntu Server Run

apt update

apt upgrade

... Kick start files

apt install nginx

/uwsgi/conf/usgi/live.wsgi

/etc/system/system/uwsgi.service

Working Directory = --------

ExecStart = /etc/system/system/uwsgi.service

User = Django

Group = Django

systemctl start uswsgi

systemctl status uwsgi

systemctl enable uwsgi

/etc/nginx/sites\_available/defactomic

server name omis.willsandskills.en

http/ {

proxy\_class localhost: 8000

}

/static/{

alias calloutstatic files

}

## Unified Firewall

It is needed for elastic search

ufw default incoming deny,

ufw default outgoing allow

ufw allow ssh 22/tcp or we can write ufw allow ssh 2121

ufw allow http

ufw allow https

ufw enable

ufw status